

OIPE

RAW SEQUENCE LISTING  
 PATENT APPLICATION: US/09/901,812

DATE: 07/25/2001  
 TIME: 14:12:35

Input Set : A:\GENENT.083A.txt  
 Output Set: N:\CRF3\07252001\I901812.raw

**ENTERED**

```

4 <110> APPLICANT: Pennica, Diane
5   Polakis, Paul
6   Szeto, Wayne
8 <120> TITLE OF INVENTION: UPREGULATION OF TUMOR ANTIGENS TO
9   ENHANCE EFFICACY OF IMMUNOTHERAPY
12 <130> FILE REFERENCE: GENENT.083A
C--> 14 <140> CURRENT APPLICATION NUMBER: US/09/901,812
C--> 14 <141> CURRENT FILING DATE: 2001-07-10
14 <150> PRIOR APPLICATION NUMBER: 60/228,914
15 <151> PRIOR FILING DATE: 2000-08-29
17 <150> PRIOR APPLICATION NUMBER: 09/759,056
18 <151> PRIOR FILING DATE: 2001-01-11
20 <150> PRIOR APPLICATION NUMBER: 60/175,849
21 <151> PRIOR FILING DATE: 2000-01-13
23 <150> PRIOR APPLICATION NUMBER: 60/197,089
24 <151> PRIOR FILING DATE: 2000-04-14
26 <160> NUMBER OF SEQ ID NOS: 28
28 <170> SOFTWARE: FastSEQ for Windows Version 4.0
30 <210> SEQ ID NO: 1
31 <211> LENGTH: 2732
32 <212> TYPE: DNA
33 <213> ORGANISM: Homo sapiens
35 <400> SEQUENCE: 1
36 agtcccagac gggctttc cagagagcta aaagagaagg gccagagaat gtcgtcccag 60
37 ccagcagggc accagaccc cccccgggccc acagaggact actcctatgg cagctggcac 120
38 atcgatgagc cccagggggg cgaggagctc cagccagagg gggaaatgc 180
39 accagcatac caccggccct gtaccacgc tgcctggcc ctgcgtcaat ccttgtgctg 240
40 ctgctcctgg ccatgctggt gagggcgccgc cagctctggc ctgactgtgt gcgtggcagg 300
41 cccggcctgc ccagccctgt ggatttcttg gctgggaca ggccccgggc agtgcctgct 360
42 gctgtttca tggtcctcct gagctccctg tggttgc tcccccacga ggacgcattg 420
43 cccttcctga ctctcgccctc agcacccagc caagatggga aaactgaggc tccaagaggg 480
44 gcctggaaga tactgggact gttctattat gtcgcctct actaccctct ggctgcctgt 540
45 gccacggctg gccacacagc tgccacacctg ctcggcagca cgctgtcctg ggcccacctt 600
46 ggggtccagg tctggcagag ggcagagtgt ccccgaggctc ccaagatcta caagtactac 660
47 tcctgtctgg cctccctgccc tctcctgtctgg ggcctcggat tcctgagcc ttggtaaccct 720
48 gtgcagctgg tgagaagctt cagccgttagg acaggagcag gtcacaagg gtcgcagagc 780
49 agtactctg aggaatatct gaggaacctc ctttgcagga agaagctgg aagcagctac 840
50 cacacctcca agcatgctt cctgtcctgg gcccgcgtct gtttgcacca ctgcacatctac 900
51 actccacagc caggatcca tctcccgctg aagctggctc ttgcacatctac actgacaggg 960
52 acggccattt accaggtggc cttgtcgtct ctgggtggcg tggtaaccac tatccagaag 1020
53 gtgagggcag gggtcaccac ggtatgtctcc tacctgtctgg cccggctttgg aatcggtctc 1080
54 tccgaggaca agcaggaggt ggtggagctg gtgaagcacc atctgtgggc tctggaaatgt 1140
55 tgctacatct cagccttggc tttgtcctgc ttactcacct tcctgtccct gatgcgtca 1200
56 ctggtgacac acaggaccaa ctttcgagct ctgcaccgag gagctgcctt ggacttgagt 1260
57 cccttgcatac ggagtccccca tccctccgc caagccatat tctgttggat gagcttcagt 1320
58 gcctaccaga cagcctttat ctgccttggg ctccctggc acagatcat cttcttcctg 1380
59 ggaaccacgg ccctggccctt cttgtgctc atgcctgtgc tccatggcag gaacccctg 1440

```

**RAW SEQUENCE LISTING** DATE: 07/25/2001  
**PATENT APPLICATION:** US/09/901,812 TIME: 14:12:35

Input Set : A:\GENENT.083A.txt  
Output Set: N:\CRF3\07252001\I901812.raw

RAW SEQUENCE LISTING  
PATENT APPLICATION: US/09/901,812

DATE: 07/25/2001  
TIME: 14:12:35

Input Set : A:\GENENT.083A.txt  
Output Set: N:\CRF3\07252001\I901812.raw

```

111 Ser Thr Leu Ser Trp Ala His Leu Gly Val Gln Val Trp Gln Arg Ala
112           180           185           190
113 Glu Cys Pro Gln Val Pro Lys Ile Tyr Lys Tyr Tyr Ser Leu Leu Ala
114           195           200           205
115 Ser Leu Pro Leu Leu Leu Gly Leu Gly Phe Leu Ser Leu Trp Tyr Pro
116           210           215           220
117 Val Gln Leu Val Arg Ser Phe Ser Arg Arg Thr Gly Ala Gly Ser Lys
118           225           230           235           240
119 Gly Leu Gln Ser Ser Tyr Ser Glu Glu Tyr Leu Arg Asn Leu Leu Cys
120           245           250           255
121 Arg Lys Lys Leu Gly Ser Ser Tyr His Thr Ser Lys His Gly Phe Leu
122           260           265           270
123 Ser Trp Ala Arg Val Cys Leu Arg His Cys Ile Tyr Thr Pro Gln Pro
124           275           280           285
125 Gly Phe His Leu Pro Leu Lys Leu Val Leu Ser Ala Thr Leu Thr Gly
126           290           295           300
127 Thr Ala Ile Tyr Gln Val Ala Leu Leu Leu Val Gly Val Val Pro
128           305           310           315           320
129 Thr Ile Gln Lys Val Arg Ala Gly Val Thr Thr Asp Val Ser Tyr Leu
130           325           330           335
131 Leu Ala Gly Phe Gly Ile Val Leu Ser Glu Asp Lys Gln Glu Val Val
132           340           345           350
133 Glu Leu Val Lys His His Leu Trp Ala Leu Glu Val Cys Tyr Ile Ser
134           355           360           365
135 Ala Leu Val Leu Ser Cys Leu Leu Thr Phe Leu Val Leu Met Arg Ser
136           370           375           380
137 Leu Val Thr His Arg Thr Asn Leu Arg Ala Leu His Arg Gly Ala Ala
138           385           390           395           400
139 Leu Asp Leu Ser Pro Leu His Arg Ser Pro His Pro Ser Arg Gln Ala
140           405           410           415
141 Ile Phe Cys Trp Met Ser Phe Ser Ala Tyr Gln Thr Ala Phe Ile Cys
142           420           425           430
143 Leu Gly Leu Leu Val Gln Gln Ile Ile Phe Phe Leu Gly Thr Thr Ala
144           435           440           445
145 Leu Ala Phe Leu Val Leu Met Pro Val Leu His Gly Arg Asn Leu Leu
146           450           455           460
147 Leu Phe Arg Ser Leu Glu Ser Ser Trp Pro Phe Trp Leu Thr Leu Ala
148           465           470           475           480
149 Leu Ala Val Ile Leu Gln Asn Met Ala Ala His Trp Val Phe Leu Glu
150           485           490           495
151 Thr His Asp Gly His Pro Gln Leu Thr Asn Arg Arg Val Leu Tyr Ala
152           500           505           510
153 Ala Thr Phe Leu Leu Phe Pro Leu Asn Val Leu Val Gly Ala Met Val
154           515           520           525
155 Ala Thr Trp Arg Val Leu Leu Ser Ala Leu Tyr Asn Ala Ile His Leu
156           530           535           540
157 Gly Gln Met Asp Leu Ser Leu Leu Pro Pro Arg Ala Ala Thr Leu Asp
158           545           550           555           560
159 Pro Gly Tyr Tyr Thr Tyr Arg Asn Phe Leu Lys Ile Glu Val Ser Gln

```

RAW SEQUENCE LISTING  
PATENT APPLICATION: US/09/901,812

DATE: 07/25/2001  
TIME: 14:12:35

Input Set : A:\GENENT.083A.txt  
Output Set: N:\CRF3\07252001\I901812.raw

```

160           565           570           575
161 Ser His Pro Ala Met Thr Ala Phe Cys Ser Leu Leu Leu Gln Ala Gln
162           580           585           590
163 Ser Leu Leu Pro Arg Thr Met Ala Ala Pro Gln Asp Ser Leu Arg Pro
164           595           600           605
165 Gly Glu Glu Asp Glu Gly Met Gln Leu Leu Gln Thr Lys Asp Ser Met
166           610           615           620
167 Ala Lys Gly Ala Arg Pro Gly Ala Ser Arg Gly Arg Ala Arg Trp Gly
168 625           630           635           640
169 Leu Ala Tyr Thr Leu Leu His Asn Pro Thr Leu Gln Val Phe Arg Lys
170           645           650           655
171 Thr Ala Leu Leu Gly Ala Asn Gly Ala Gln Pro
172           660           665
175 <210> SEQ ID NO: 3
176 <211> LENGTH: 676
177 <212> TYPE: DNA
178 <213> ORGANISM: Homo sapiens
180 <220> FEATURE:
181 <221> NAME/KEY: misc_feature
182 <222> LOCATION: (0)...(0)
183 <223> OTHER INFORMATION: n = A, T, C or G
185 <400> SEQUENCE: 3
W--> 186 gtgctctccg aggacaagca ggaggnggtg gagctggta agcaccatct gtgggctctg 60
187 gaagtgtgt acatctcgc ctggctctg tcctgcttac tcaccttcct ggtcctgtatg 120
188 cgctcaactgg tgacacacag gaccaaccc ttgatctgc accgaggagc tgcctggac 180
189 tttagtccct tgcattcgag tccccatccc tcccgccaag ccataattctg ttggatgagc 240
190 ttcagtgcct accagacagc ctttatctgc cttgggctcc tggatcagca gatcatctc 300
191 ttcctggaa ccacggccct ggccttcctg gtgatcattgc ctgtgcctca tggcaggaac 360
192 ctccctgcct tccgttccct ggatcttcctg tggcccttct ggatcattttt ggcctggct 420
193 gtgatcctgc agaacatggc agccattgg gtcttcctgg agactcatga tggacaccca 480
194 cagctgacca accggcgagt gctctatgca gccacccccc ttcttttccc cctcaatgtg 540
195 ctgggggtt ccattggc cacctggcga gtgatcatttc ctgcctcta caacgccatc 600
196 cacctggcc agatggaccc cagctgtcg ccacccggag ccggccactct cgacccggc 660
197 tactacacgt accgaa
198 <210> SEQ ID NO: 4
199 <211> LENGTH: 2777
200 <212> TYPE: DNA
201 <213> ORGANISM: Homo sapiens
202 <400> SEQUENCE: 4
205 cacaaccaggc caccctcta ggatcccaggc ccagctggtg ctgggctcag aggagaaggc 60
206 cccgttgg gggccctg cttgcctgaa gggacaagtt tccgggagag atcaataaaag 120
207 gaaaggaaag agacaaggaa gggagaggc aggagagccg ttgattggag gagaaggggcc 180
208 agagaatgtc gtcccagccca gcaggaaacc agacccccc cggggccaca gaggactact 240
209 cctatggcag ctggatcacatc gatgagccccc agggggcga ggatcctccag ccagaggggg 300
210 aagtgcctc ctgcacacc accataccac ccggcctgtc ccacgcctgc ctggcctcgc 360
211 tgtcaatct tggatgtcg ctcctggcca tggatgtcg gggccggccag ctctggcctg 420
212 actgtgtcg tggcaggccc ggcctggcca gggccggcc agtgcctgtc gctgtttca 480
213 tggatcctctt gagctccctg tggatgtcg tccctggac gggatcattt cccttcctg 540
214 ctctcgccctc agcaccaggc caagatgggaa aaactgaggc tccaaaggagg gcctggaaaga 600

```

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/901,812

DATE: 07/25/2001

TIME: 14:12:35

Input Set : A:\GENENT.083A.txt

Output Set: N:\CRF3\07252001\I901812.raw

215 tactgggact gttcttattat gctgccctct actaccctct ggctgcctgt gccacggctg 660  
 216 gcccacacagg tgcacacccgt ctggcagaca cgctgcctg ggcccacctt ggggtccagg 720  
 217 tctggcagag ggcagagtgt ccccaagggtgc ccaagatcta caagtactac tccctgctgg 780  
 218 cctccctgccc ttcctgctg ggcctcgat tcctgagccct ttggtagccct gtgcagctgg 840  
 219 tgagaagctt cagccgtagg acaggagcag gctccaagggg gtcagagc agctactctg 900  
 220 aggaatatctt gaggaacctc ctttgcagga agaagctggg aagcagctac cacaccccca 960  
 221 agcatggctt cctgtcctgg gcccgcgtct gcttgagaca ctgcatactac actccacacg 1020  
 222 caggattcca tctcccgctg aagctgggtgc tttcagactac actgacaggg acggccattt 1080  
 223 accaggtggc cctgctgctg ctgggtggcg tggtaaccac tatccagaag gtgagggcag 1140  
 224 ggttcaccac ggtatgtctt tacctgctgg ccggcttgg aatctgtctc tccgaggaca 1200  
 225 acaggaggtt ggtggagctg gtgaaggcacc atctgtggc tctggaaagt tgctacatct 1260  
 226 cagccttggg cttgtcctgc ttactcacct tccctgtctt gatgcgtctca ctggtagacac 1320  
 227 acaggaccaa ctttcgagct ctgcaccggag gagctgcccctt ggactttagt cccttgcatc 1380  
 228 ggagtccccca tccctccccc caagccatat tctgttggat gagttcaagt gcctaccaga 1440  
 229 cagcctttat ctgccttggg ctccctggc agcagatcat cttcttcctt ggaaccacgg 1500  
 230 ccctggcctt cctgggtgctc atgcctgtgc tccatggcag gaacccctt ctcttcgtt 1560  
 231 ccctggagtc ctcgtggccc ttctggctga ctttggccctt ggctgtgatc ctgcagaaca 1620  
 232 tggcagccca ttgggttctt ctggagactc atgatggaca cccacagctg accaaccggc 1680  
 233 gagtgctcta tgcagccacc tttcttctct tccccctcaa tgtgtggg ggtggccatag 1740  
 234 tggccacccgt gcgagtgctc ctctctgtccc tctacaacgc catccacctt ggcagatgg 1800  
 235 acctcagccct gtcgcacccg agagccgcca ctctcgacc cggctactac acgtaccgaa 1860  
 236 acttcttgaat gattgaagtc agccagtcgc atccagccat gacagccctc tgctccctgc 1920  
 237 tcctgcaagc gcagagccctc ctacccagga ccatgcagc ccccccaggac agcctcagac 1980  
 238 caggggagga agacgaaggg atgcagctgc tacagacaaa ggactccatg gccaaggggag 2040  
 239 cttagcccccgg ggccagccgc ggcaagggtctc gctgggtctt ggcttacacg ctgctgcaca 2100  
 240 acccaaccctt gcaggttctt cgcacagacgg ccctgttggg tgccaatggt gcccagccct 2160  
 241 gagggcaggg aaggtcaacc cacctgccc tctgtctga ggcatgttcc tgccataccac 2220  
 242 ctccctccctc cccggctctc ctcccagcat cacaccagcc atgcagccag caggtccctc 2280  
 243 ggatcactgt gggtgggtgg aggtctgtct gcaactggag cctcaggagg gctctgtctc 2340  
 244 acccaacttgg ctatgggaga gcacgcagg gttctggaga aagaaaactgg tgggttaggg 2400  
 245 ccttggtcca ggagccagtt gagccaggc accacatcc aggctgtctcc ctaccctggc 2460  
 246 tctgccatca gcttgaagg gcctcgatga agccttctctt ggaaccactc cagcccaagct 2520  
 247 ccacccctcagc ctggccttc acgctgtggc agcagccaa gcaactccctc accccctcag 2580  
 248 cgcacccggac ctctctgggg agtggccggaa aagctcccg gctctggcc tgcaaggcag 2640  
 249 cccaaagtcat gactcagacc aggtcccaca ctgagctgccc cacactcgag agccagatata 2700  
 250 ttttgttagtt ttatgcctt tggttattat gaaagaggtt agtgtgttcc ctgcaataaaa 2760  
 251 ctgttccctg agaaaaaa 2777  
 253 <210> SEQ ID NO: 5  
 254 <211> LENGTH: 658  
 255 <212> TYPE: PRT  
 256 <213> ORGANISM: Homo sapiens  
 258 <400> SEQUENCE: 5  
 259 Met Ser Ser Gln Pro Ala Gly Asn Gln Thr Ser Pro Gly Ala Thr Glu  
 260 1 5 10 15  
 261 Asp Tyr Ser Tyr Gly Ser Trp Tyr Ile Asp Glu Pro Gln Gly Glu  
 262 20 25 30  
 263 Glu Leu Gln Pro Glu Gly Glu Val Pro Ser Cys His Thr Ser Ile Pro  
 264 35 40 45  
 265 Pro Gly Leu Tyr His Ala Cys Leu Ala Ser Leu Ser Ile Leu Val Leu

**VERIFICATION SUMMARY**

PATENT APPLICATION: US/09/901,812

DATE: 07/25/2001

TIME: 14:12:36

Input Set : A:\GENENT.083A.txt

Output Set: N:\CRF3\07252001\I901812.raw

L:14 M:270 C: Current Application Number differs, Replaced Current Application No

L:14 M:271 C: Current Filing Date differs, Replaced Current Filing Date

L:186 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3